

1. An immunoassay method for detecting infection in a human by human papillomavirus 16, said method comprising the steps of:

reacting a sample of body fluid or tissue likely to contain serum antibodies raised against a polypeptide which includes amino acids 6 through 35 of the E7 early coding region of human papillomavirus 16 with a peptide according to SEQ ID NO.: 3, wherein carboxymethylcysteine is substituted for one or more cysteine residues in said peptide;

forming a complex of the peptide and sample serum antibodies, wherein the formation of the antibody-peptide complex confirms the presence of serum antibodies to human papillomavirus 16; and

detecting the antibody-peptide complex.

2. An immunoassay method for detecting infection in a human by human papillomavirus 16 as defined in claim 1, wherein the detection step is accomplished by means of visual inspection of a color change.

3. An immunoassay method for detecting infection in a human by human papillomavirus 16 as defined in claim 1, wherein the detection step is accomplished by a spectrophotometer.

4. An immunoassay method for detecting infection in a human by human papillomavirus 16 as defined in claim 1, wherein the detection step further comprises inspecting the antibody-peptide complex for physical-chemical changes.

5. An immunoassay method for detecting infection in a human by human papillomavirus 16, said method comprising the steps of:

reacting a sample of body fluid or tissue likely to contain serum antibodies raised against a polypeptide which includes amino acids 6 through 35 of the E7 early coding region of human papillomavirus 16 with a peptide according to SEQ ID NO.: 3, wherein carboxymethylcysteine is substituted for one or more cysteine residues in said peptide;

10 forming a complex of the peptide and sample serum antibodies, wherein the formation of the antibody-peptide complex confirms the presence of serum antibodies to human papillomavirus 16;

detecting the antibody-peptide complex; and

inspecting the antibody-peptide complex for physical-chemical changes.

6. An immunoassay method for detecting infection in a human by human papillomavirus 16 as defined in claim 5, wherein the detection step is accomplished by means of visual inspection of a color change.

7. An immunoassay method for detecting infection in a human by human papillomavirus 16 as defined in claim 5, wherein the detection step is accomplished by a spectrophotometer.

8. An immunoassay method for detecting a marker of malignancy or pre-malignant cell transformation in a human by human papillomavirus 16, said method comprising the steps of:

reacting a sample of body fluid or tissue likely to contain serum antibodies raised against a polypeptide which includes amino acids 6 through 35 of the E7 early coding region of human papillomavirus 16 with a peptide according to SEQ ID No.: 3, wherein carboxymethylcysteine is substituted for one or more cysteine residues in said peptide;

5 forming a complex of the peptide and sample serum antibodies, wherein the formation of the antibody-peptide complex confirms the presence of serum antibodies to human papillomavirus 16; and

10 detecting the antibody-peptide complex defining said marker.

9. An immunoassay method as defined in claim 8, further comprising a malignancy or pre-malignant cell transformation located in an area selected from the group consisting of uterus, cervix, head, neck, lung, penal, anal, and melanocytes.

10. An immunoassay method as defined in claim 8, further comprising a malignancy or pre-malignant cell transformation selected from the group consisting of squamous cell carcinoma, adenocarcinoma, and epithelial cell abnormality.

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25 11. An immunoassay method as defined in claim 10, wherein the epithelial cell abnormality is selected from the group consisting of koilocytosis, hyperkeratosis, intraepithelial neoplasias, intraepithelial lesion, high-grade dysplasia, invasive cancer, and malignant cancer.

12. An immunoassay method as defined in claim 8, wherein the detection step is accomplished by means of visual inspection of a color change.

5 13. An immunoassay method as defined in claim 8, wherein the detection step is accomplished by a spectrophotometer.

14. An immunoassay method as defined in claim 8, wherein the detection step further comprises inspecting the antibody-peptide complex for physical-chemical changes.

15. An immunoassay method for detecting a marker of malignancy or pre-malignant cell transformation in a human by human papillomavirus 16, said method comprising the steps of:

5 reacting a sample of body fluid or tissue likely to contain serum antibodies raised against a polypeptide which includes amino acids 6 through 35 of the E7 early coding region of human papillomavirus 16 with a peptide according to SEQ ID No.: 3, wherein carboxymethylcysteine is substituted for one or more cysteine residues in said peptide;

10 forming a complex of the peptide and sample serum antibodies, wherein the formation of the antibody-peptide complex confirms the presence of serum antibodies to human papillomavirus 16;

 detecting the antibody-peptide complex defining said marker; and

 inspecting the antibody-peptide complex for physical-chemical changes.

15 16. An immunoassay method as defined in claim 15, further comprising a malignancy or pre-malignant cell transformation located in an area selected from the group consisting of uterus, cervix, head, neck, lung, penal, anal, and melanocytes.

20 17. An immunoassay method as defined in claim 15, further comprising a malignancy or pre-malignant cell transformation selected from the group consisting of squamous cell carcinoma, adenocarcinoma, and epithelial cell abnormality.

25 18. An immunoassay method as defined in claim 17, wherein the epithelial cell abnormality is selected from the group consisting of koilocytosis, hyperkeratosis, intraepithelial neoplasias, intraepithelial lesion, high-grade dysplasia, invasive cancer, and malignant cancer.

19. An immunoassay method as defined in claim 15, wherein the detection step is accomplished by means of visual inspection of a color change.

20. An immunoassay method as defined in claim 15, wherein the detection step
5 is accomplished by a spectrophotometer.